# Exposure Therapy for the Treatment of Posttraumatic Stress Disorder

David S. Riggs, Ph.D.

Executive Director, Center for Deployment Psychology

Department of Medical and Clinical Psychology

Uniformed Services University of the Health Sciences

# Definition of a Trauma

- Experienced, witnessed, or been confronted with an event that involves actual or threatened death or injury, or a threat to the physical integrity of oneself or others.

- Response involved intense fear, horror or helplessness.

# Characteristics Of Trauma-Related Memory Structure

- Large number of stimuli
- Excessive fear responses (PTSD symptoms)
- Strong sensory details (e.g., images, sounds, pain, smells)
- Erroneous associations between stimuli and “danger”
- Erroneous associations between responses and “incompetent”
- Fragmented and poorly organized relationships
- Thoughts and ideas that  reflect confusion

# Avoidance Leads to Chronic PTSD

- **Persistent cognitive and behavioral avoidance:**
  - **Limits activation of the trauma memory**
  - **Limits exposure to corrective information**
  - **Limits articulation of the trauma memory**

**thus preventing organization and change in the trauma memory**

# PTSD: Diagnostic Criteria

- **Reexperiencing** (1 of 5)
  - Thoughts, nightmares, flashbacks, emotional reactions, physiological reactions
- **Avoidance** (3 of 7)
  - Avoid thoughts, avoid reminders, amnesia,detachment, numbing, anhedonia, forshortened future
- **Arousal** (2 of 5)
  - Sleep disturbance, concentration problems, anger, hypervigilance, startle

# Evidence-Based Treatments for PTSD

- **Medication**
  - **Sertraline (Zoloft) - FDA indication in 1999**
  - **Paroxetine (Paxil) - FDA indication in 2001**

- **Cognitive Behavior Therapy**
  - **Exposure Therapy**
  - **Stress Inoculation Training (SIT)**
  - **Cognitive Therapy (CT, CR)**
  - **EMDR**
  - **Combination of CR and Exposure Therapy**

# Cognitive-Behavioral Treatments for PTSD

- Exposure Procedures
  - Techniques to confront feared memories & objects
- Anxiety Management Procedures
  - Techniques to manage or reduce anxiety
- Cognitive Therapy Procedures
  - Techniques to shift erroneous cognitions

# Cognitive-Behavioral Treatments for PTSD

- Promote **safe** confrontations with trauma reminders, memories, situations

- Aim at modifying the dysfunctional cognitions underlying PTSD

# Prolonged Exposure Treatment for PTSD

1. Education about common reactions to trauma
2. Breathing retraining (“breathing in a calm way”)
3. Repeated exposure to the trauma memories
4. Repeated *in vivo* exposure to avoided situations

# RATIONALE FOR PE

Two main PE procedures:

- **Imaginal exposure** - repeated face with the traumatic memory through reliving the story.
  - Promotes processing of the highly emotional experience and recognition that the individual can cope with the distress associated with the memory.

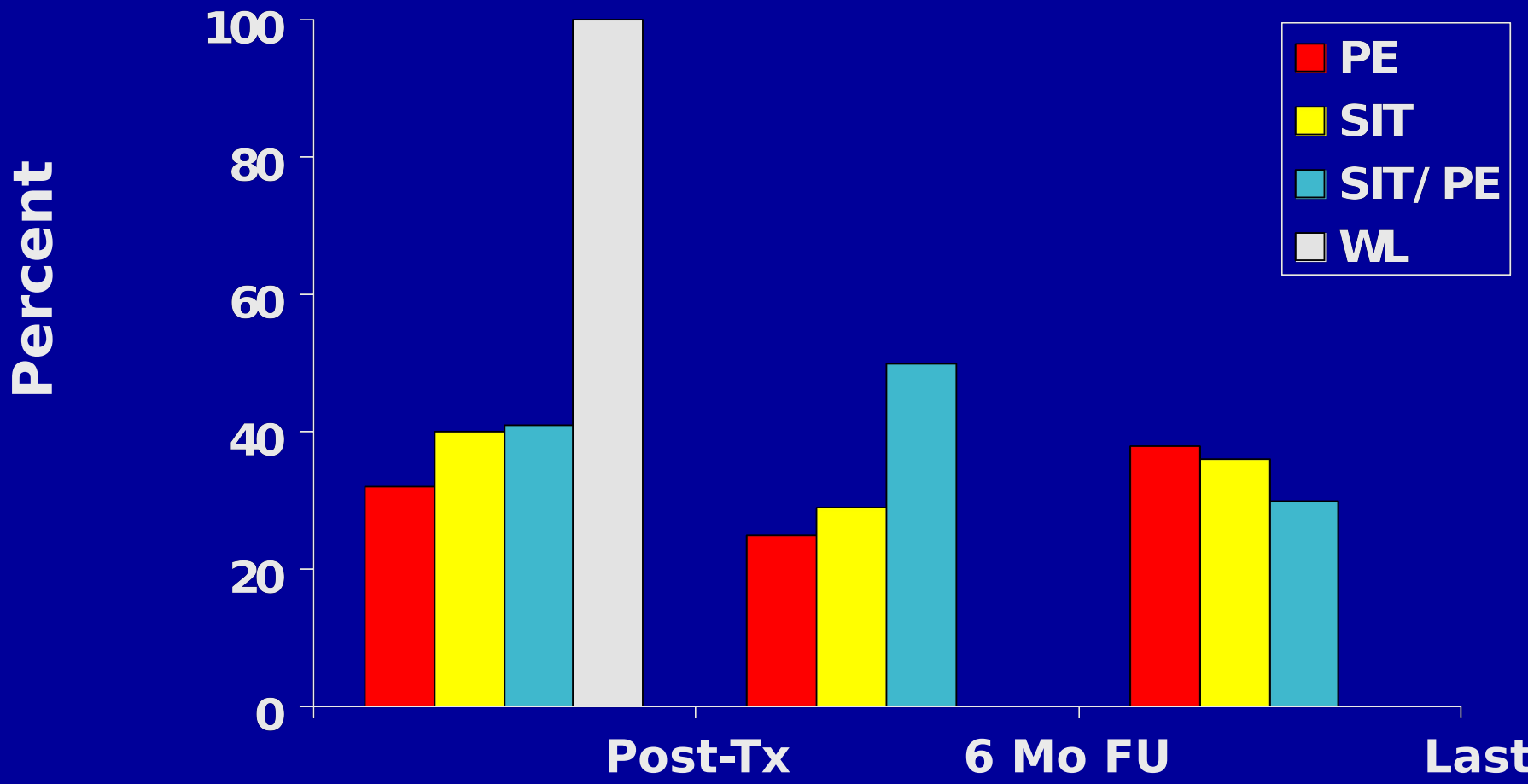
- ***In vivo* exposure** – repeatedly face trauma-related situations that are avoided.
  - Reduces excessive fear and encourages the recognition that situations are not excessively dangerous and individual can cope with them.

# Foa et al., (1999)

Treatments

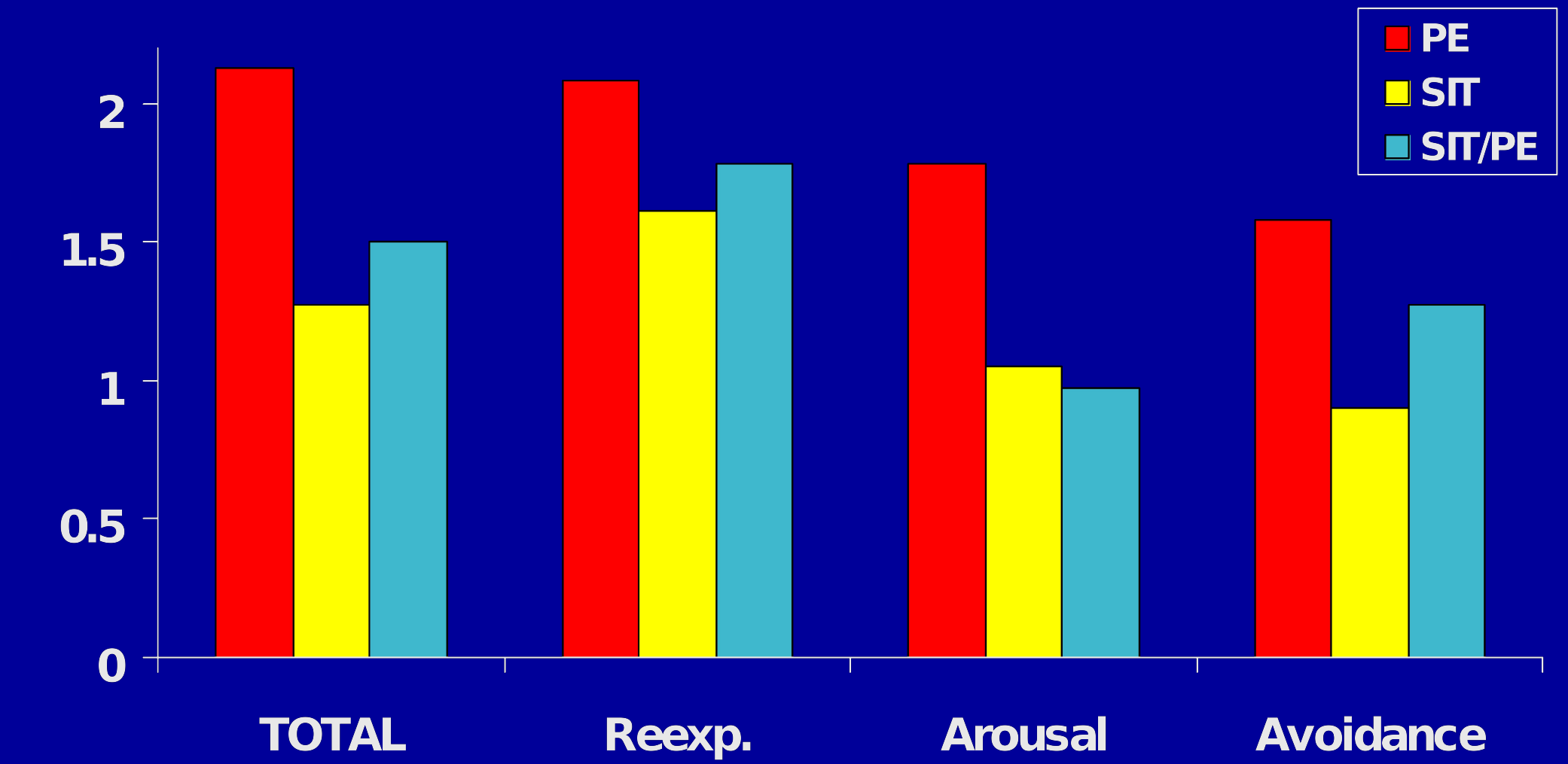
- Prolonged Exposure (PE)
- Stress Inoculation Training (SIT)
- SIT + PE
- Wait List Controls
- 9 sessions conducted over 5 weeks

# Percent of Patients With PTSD




Foa et al., 1999

# Post-Treatment Effect Sizes




Foa et al., 1999

# Resick et al., 2001

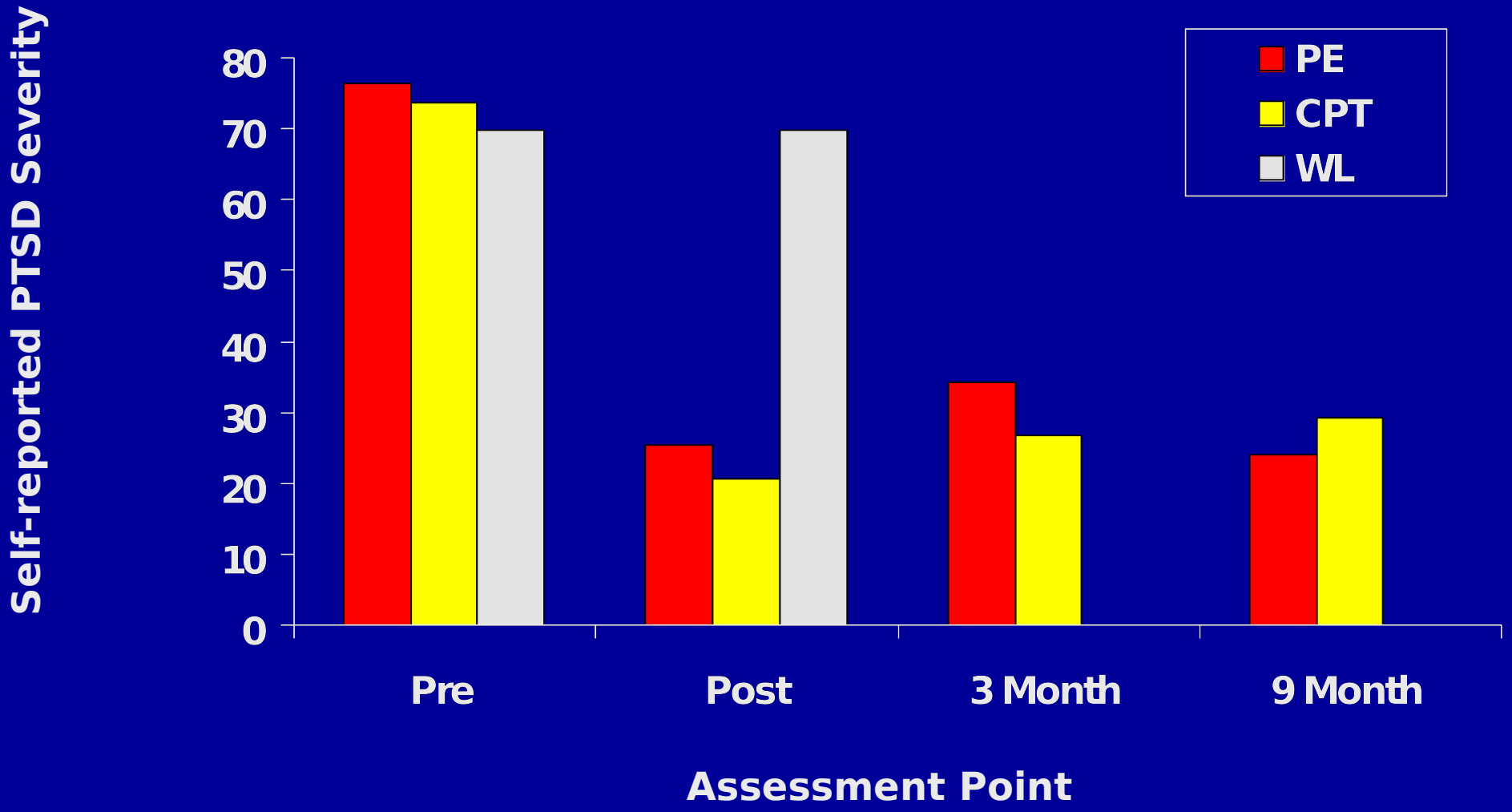
Treatments

- Exposure (PE)
- Cognitive Processing Therapy (CPT)
- Wait-List
- PE treatment 9 weekly sessions (90-minute)
  CPT treatment 12 weekly sessions (60-minute)

Treatments equated for contact time

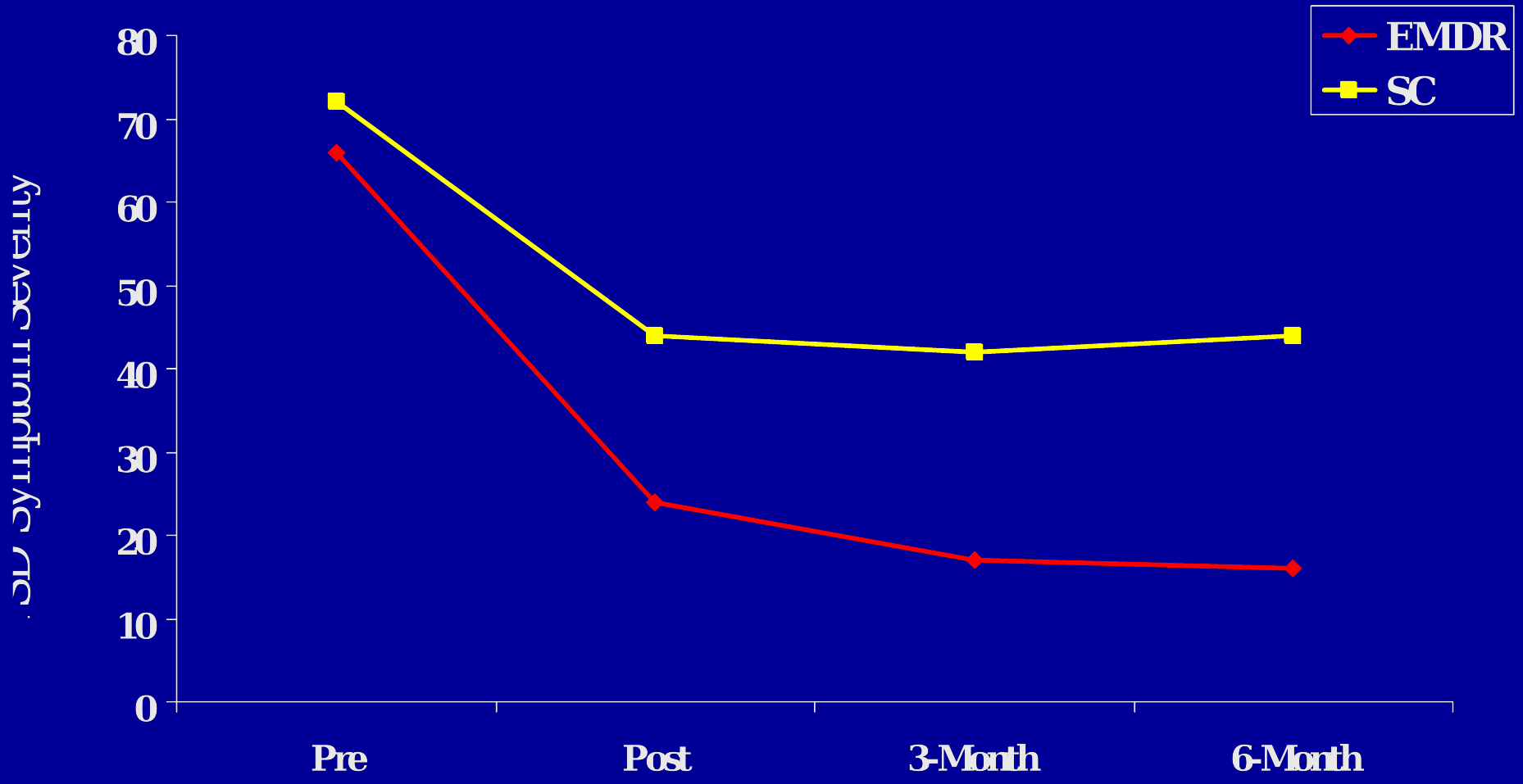
# Effects of PE and CPT

## Treatment Completers



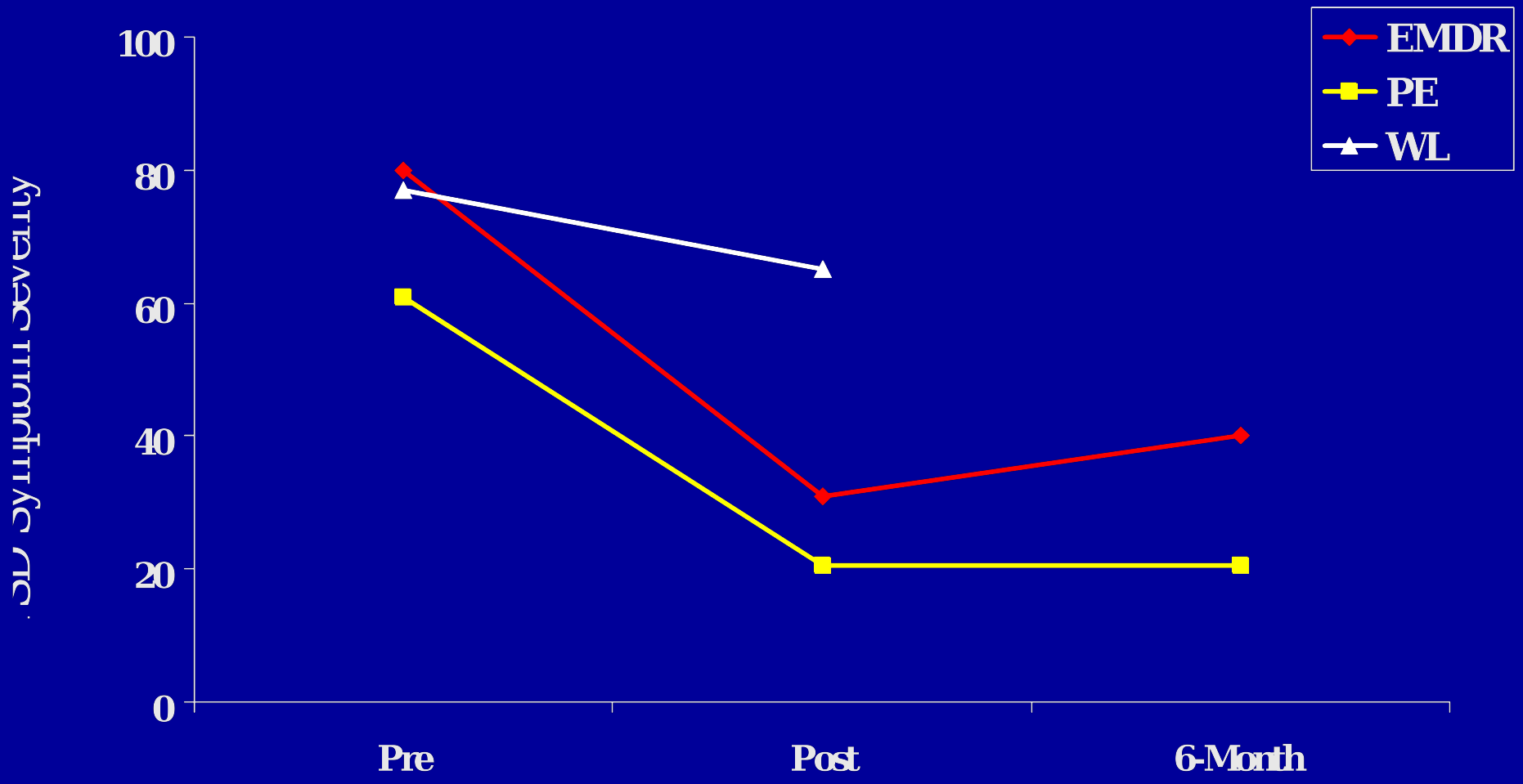

Resick et al., 2001

# EMDR vs. Supportive Counseling: Self-Reported PTSD Symptoms



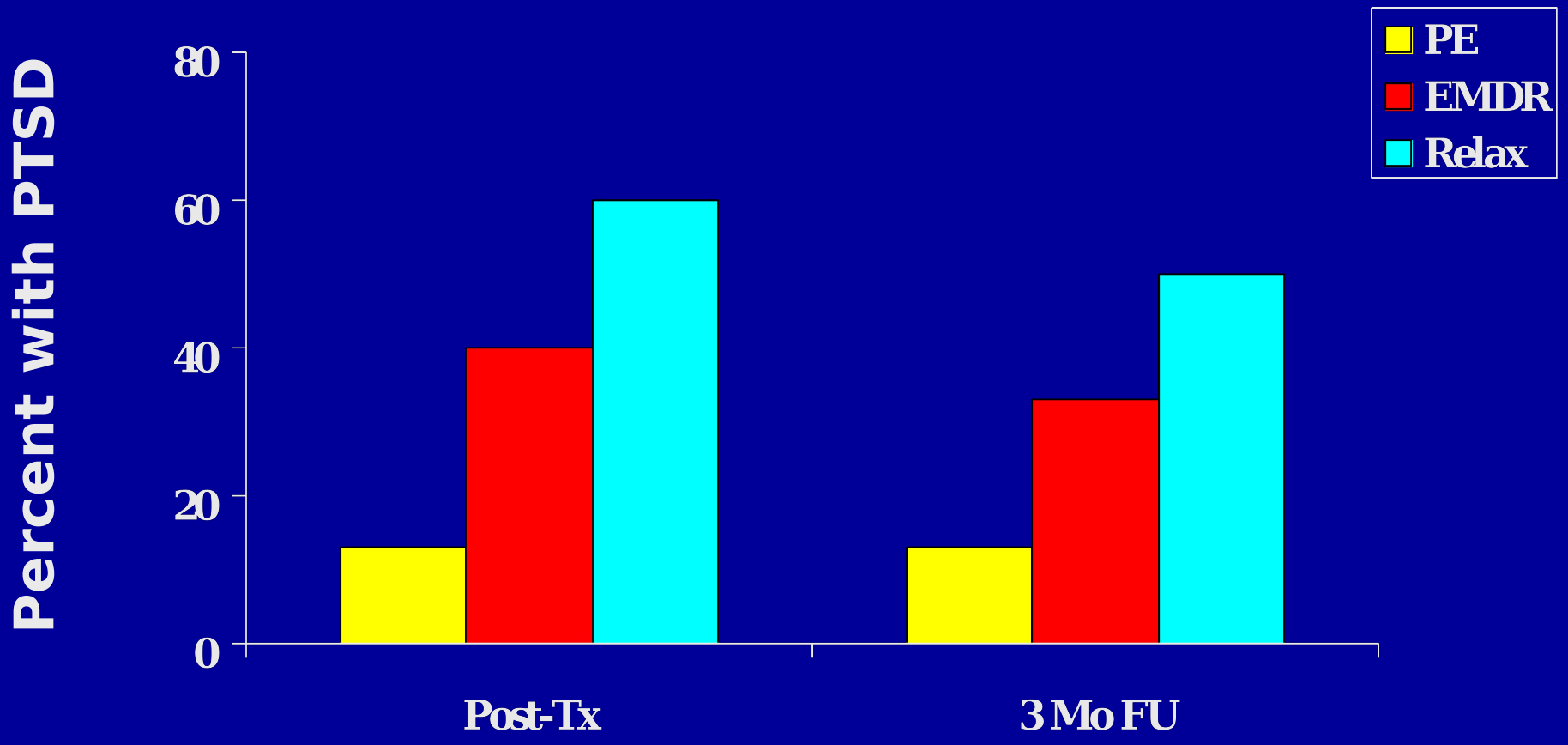

Markus et al., 1997, 2004

# PE and EMDR: Clinician Evaluated PTSD Symptoms



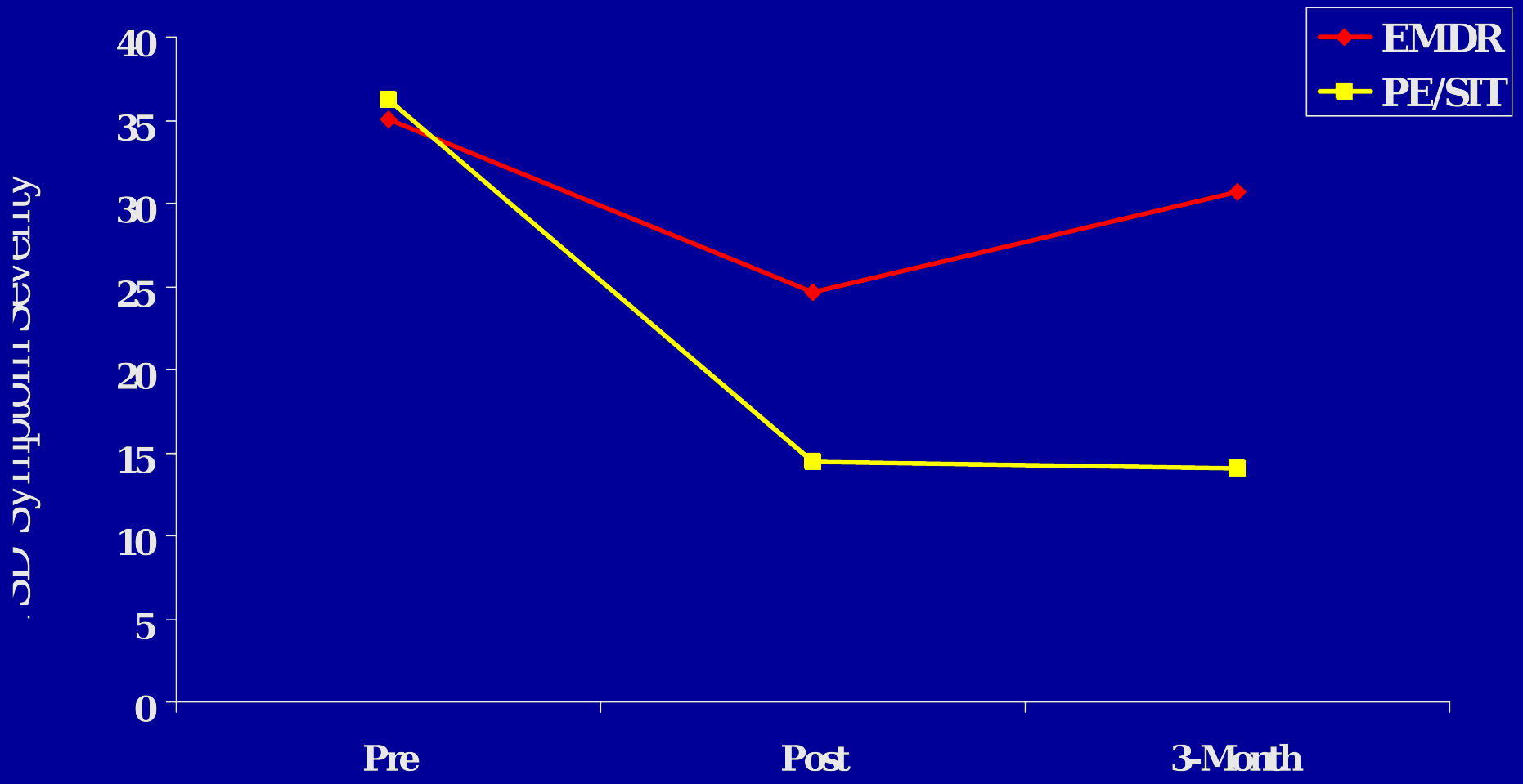

Rothbaum, Astin, & Marsteller, 2005

# PTSD Diagnosis



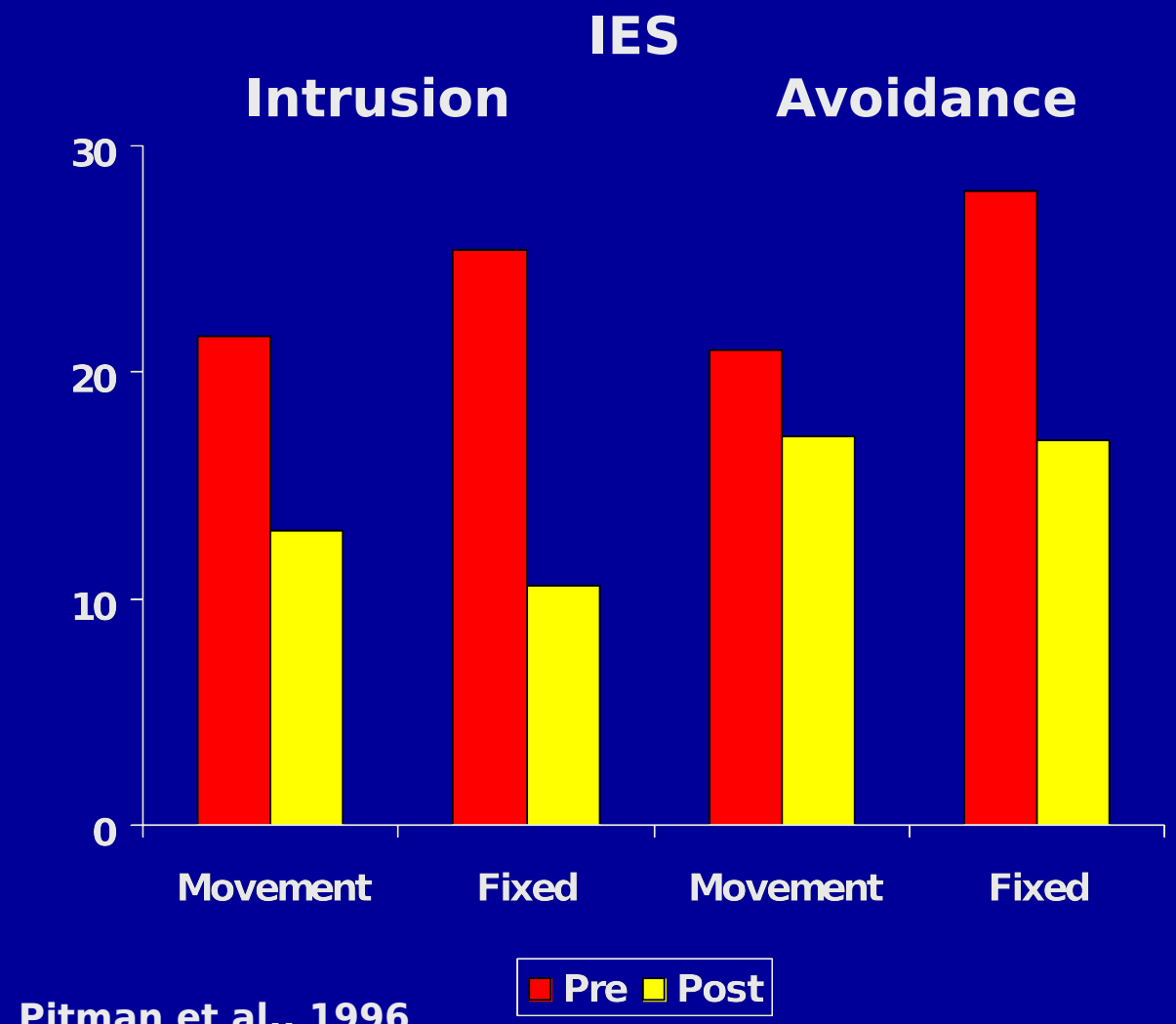

Taylor et al., 2003

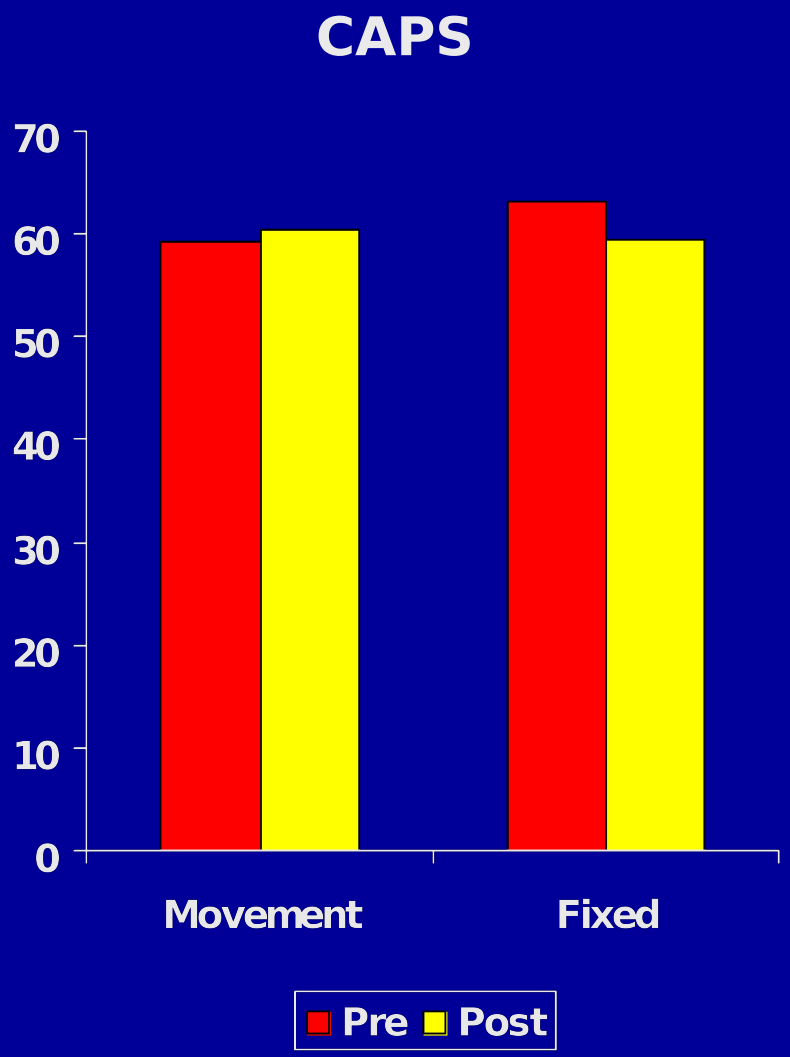
# PE/SIT and EMDR: Self-Reported PTSD Symptoms




Devilly & Spence, 1999

# Effects of Eye Movement in EMDR



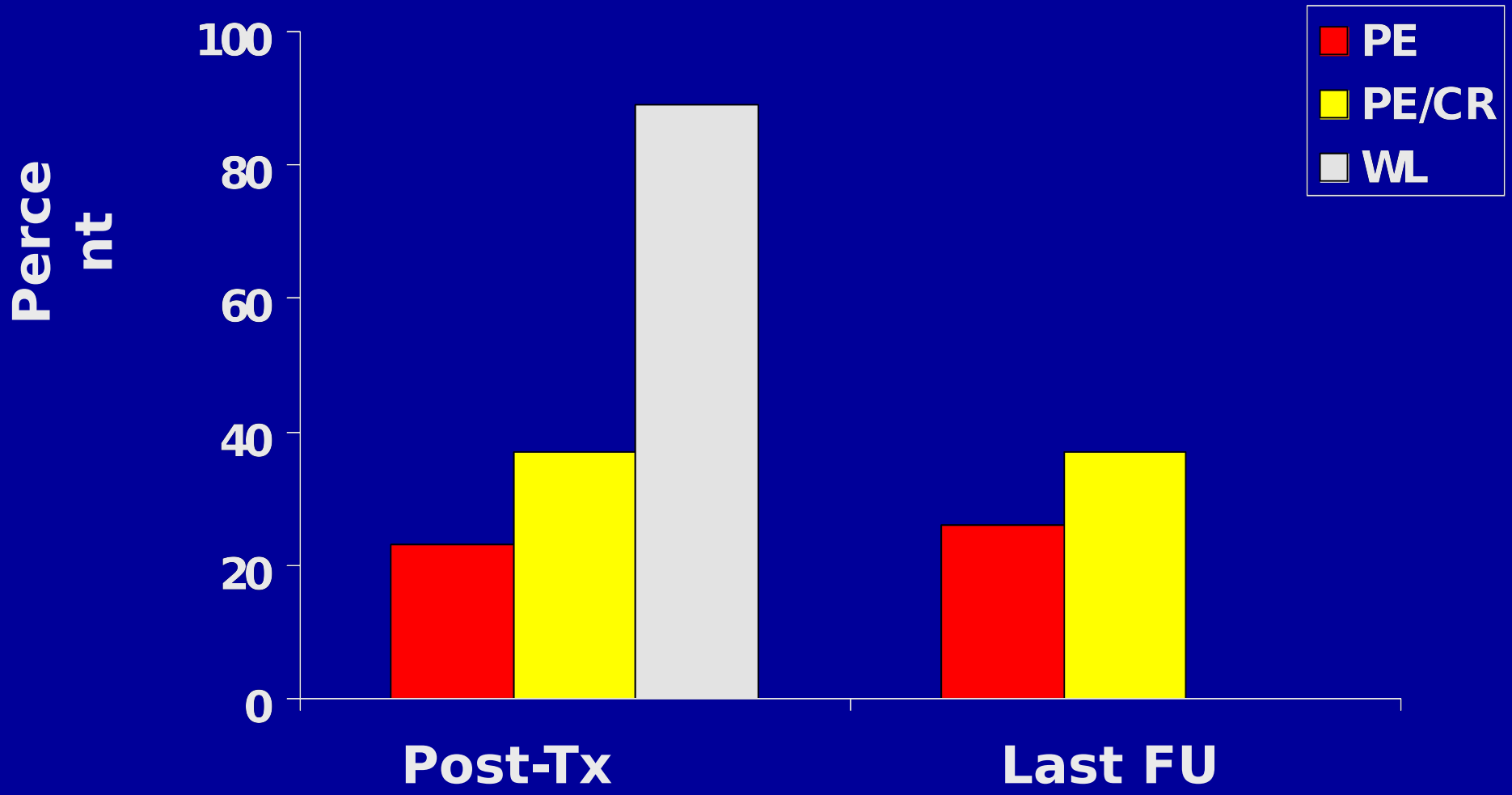

Pitman et al., 1996

# Foa et al., (2005) Design

Treatments

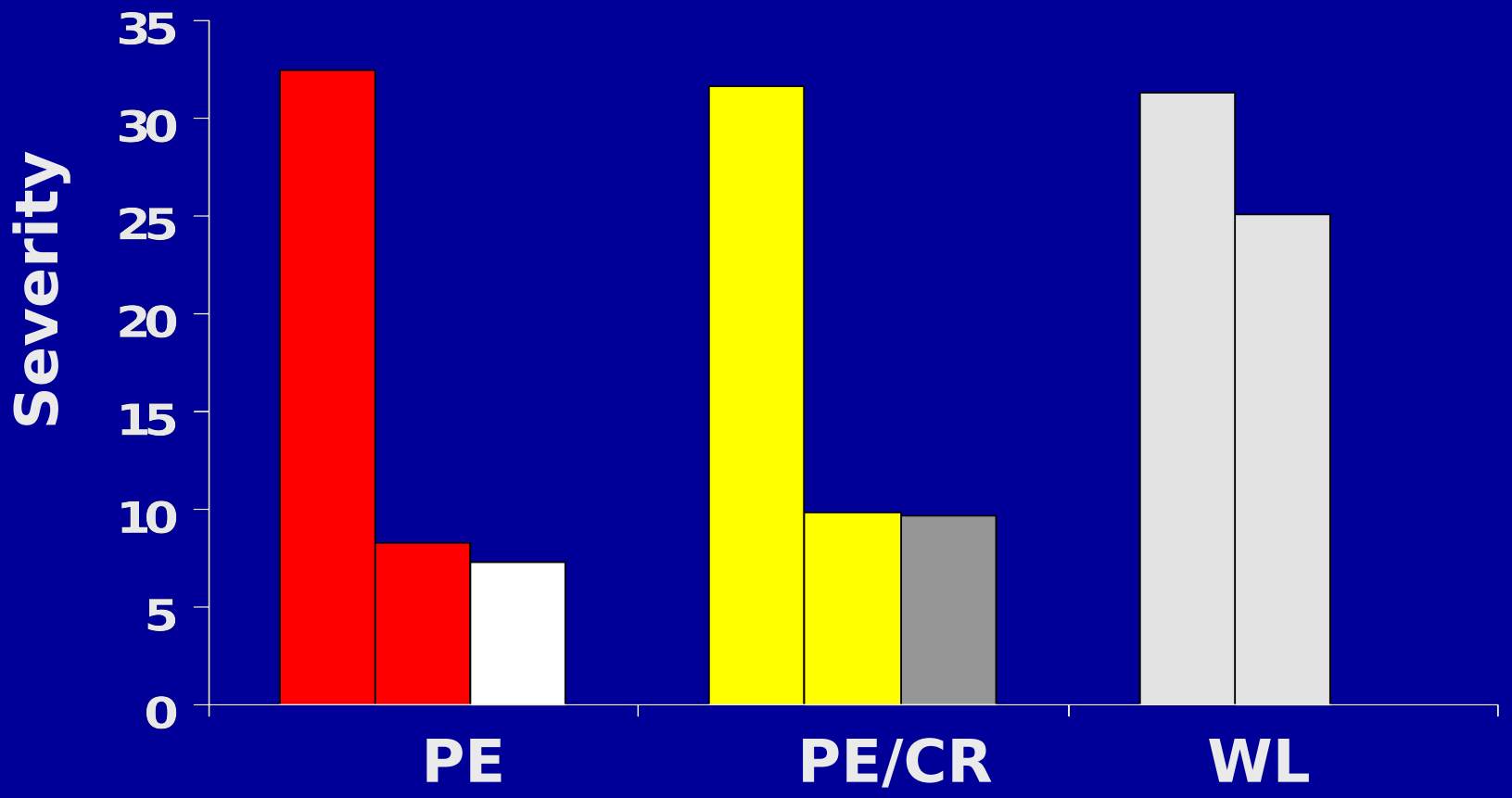
- Exposure (PE) alone
- PE + Cognitive Restructuring (PE/CR)
- Wait List (WL)
- 9 weekly sessions
  extended to 12 for partial responders
  (< 70% improvement by session 8)

# Percent of Patients With PTSD




Foa et al., (2005)

# PTSD Severity
## Treatment Completers

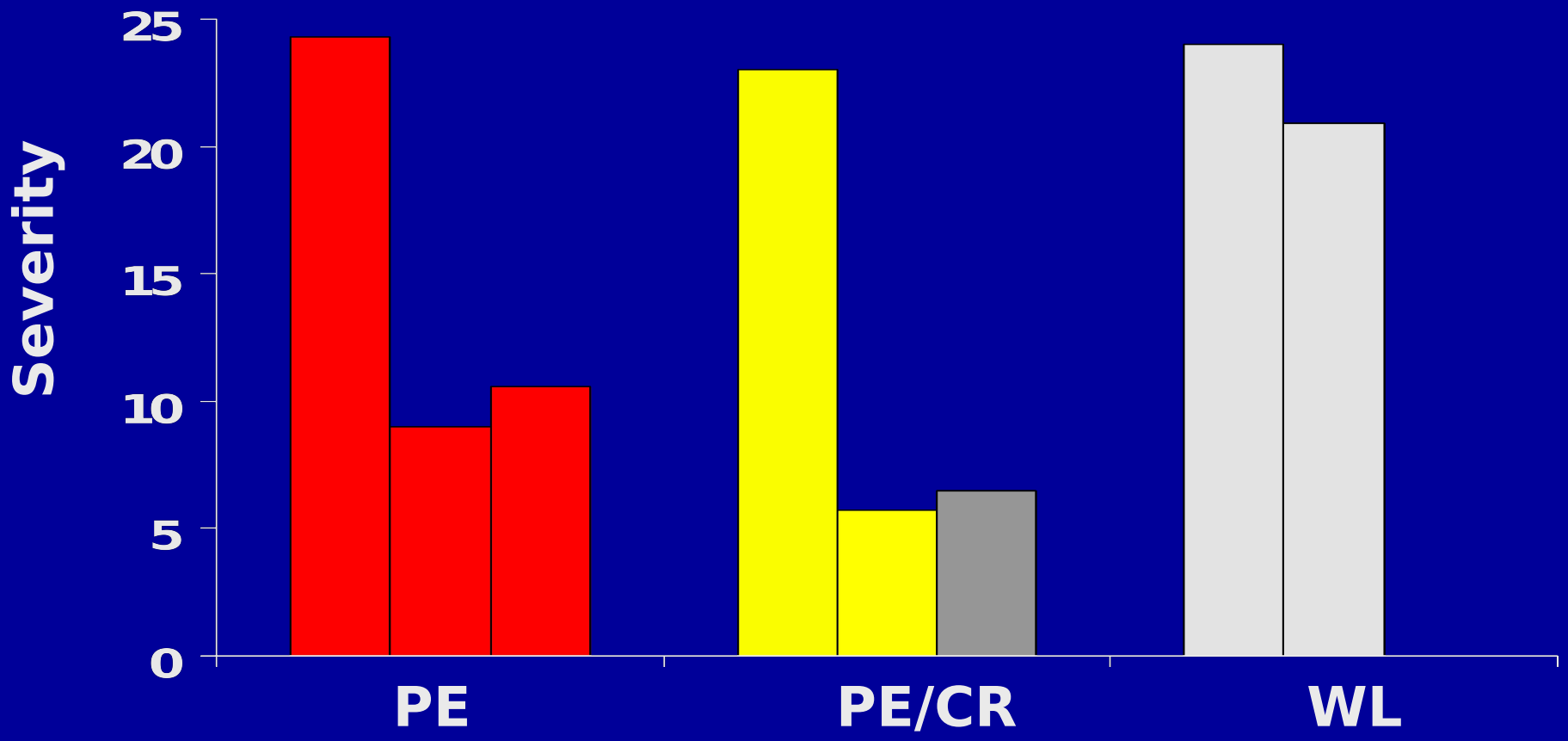



**At post-tx PE & PE/CR < WL (p < .05)**

Foa et al., 2005

# Beck Depression Inventory (BDI)

## Treatment Completers

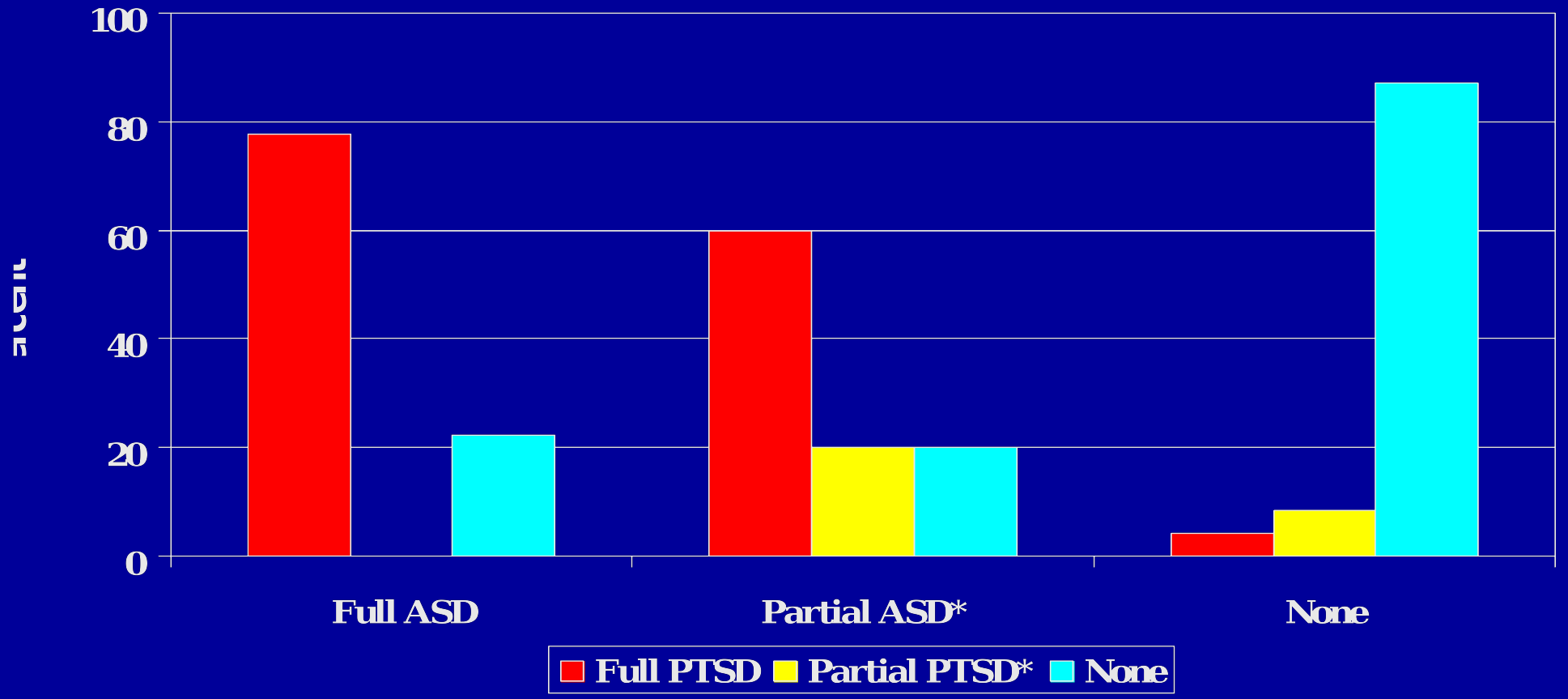



**At post-tx PE & PE/CR < WL (p < .01)**

Foa et al., 2005

# Early Intervention with Exposure Therapy

# Relationship Between ASD and Chronic PTSD




Harvey & Bryant, 1998

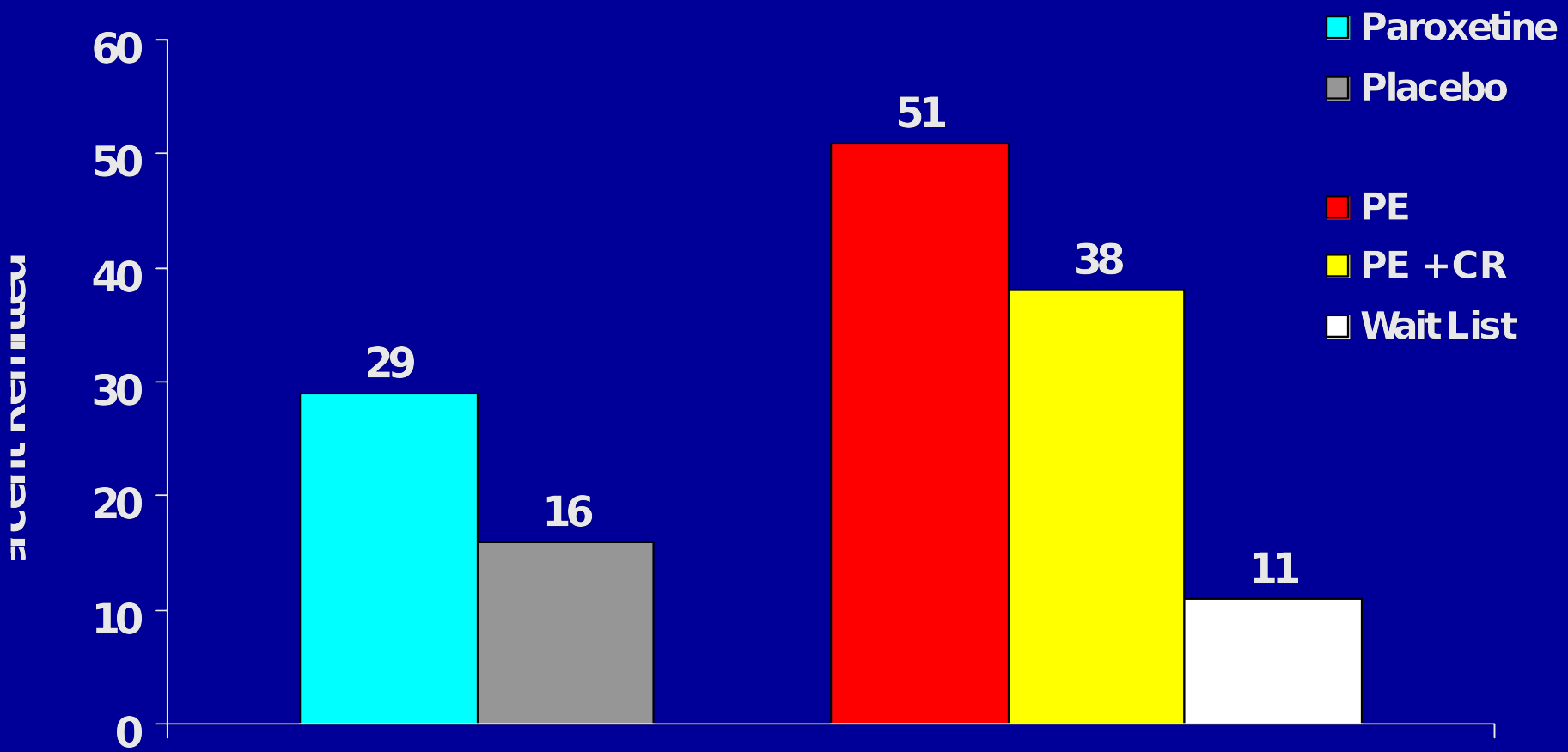
*Partial ASD and PTS
Meets criteria for al
but one symptom clu

# Preventing PTSD: Treatment for ASD

| | Intervention | | | |
|---|---|---|---|---|
| Study | PE | PE/SIT | SC | Sample |
| Bryant et al. (1998) | 8% | 83% | | MVA or industrial accidents |
| Bryant et al. (1999) | 14% | 20% | 56% | MVA or non-sexual assaults |
| Bryant et al. (2003) with mild brain injury from | 8% | 58% | | MVA / non-trauma sexual assaults |

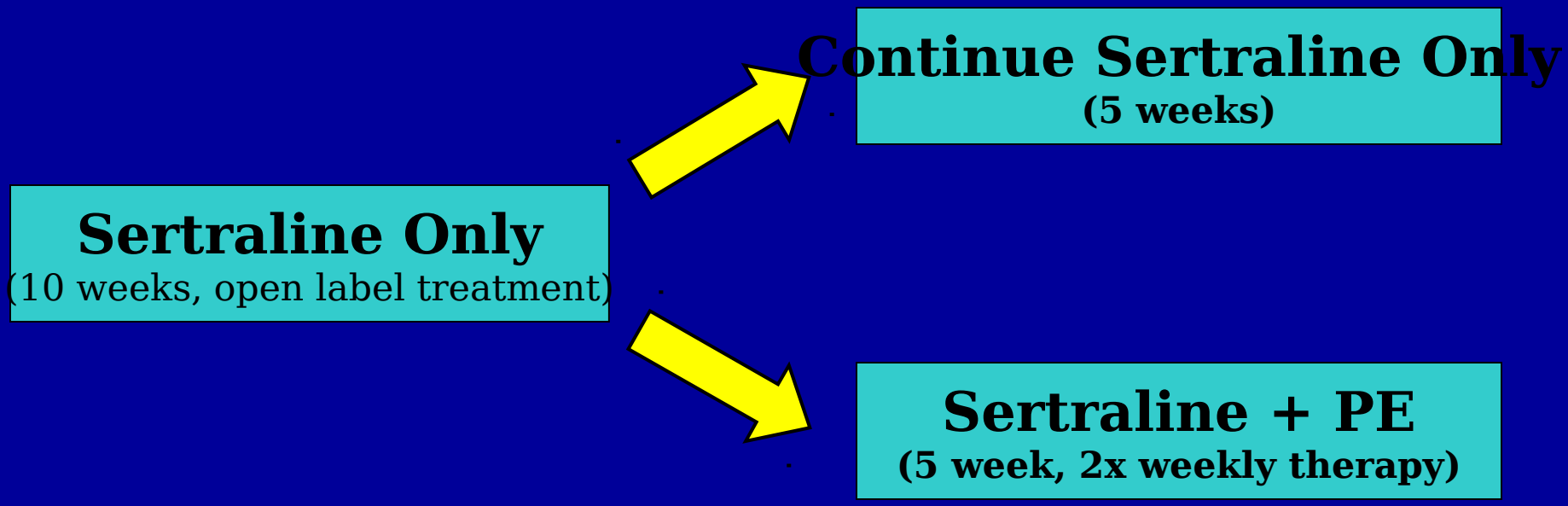
# PE as an Augmentation to Medication Treatment

# Remission Rates for PTSD Treatment
## Intent to Treat

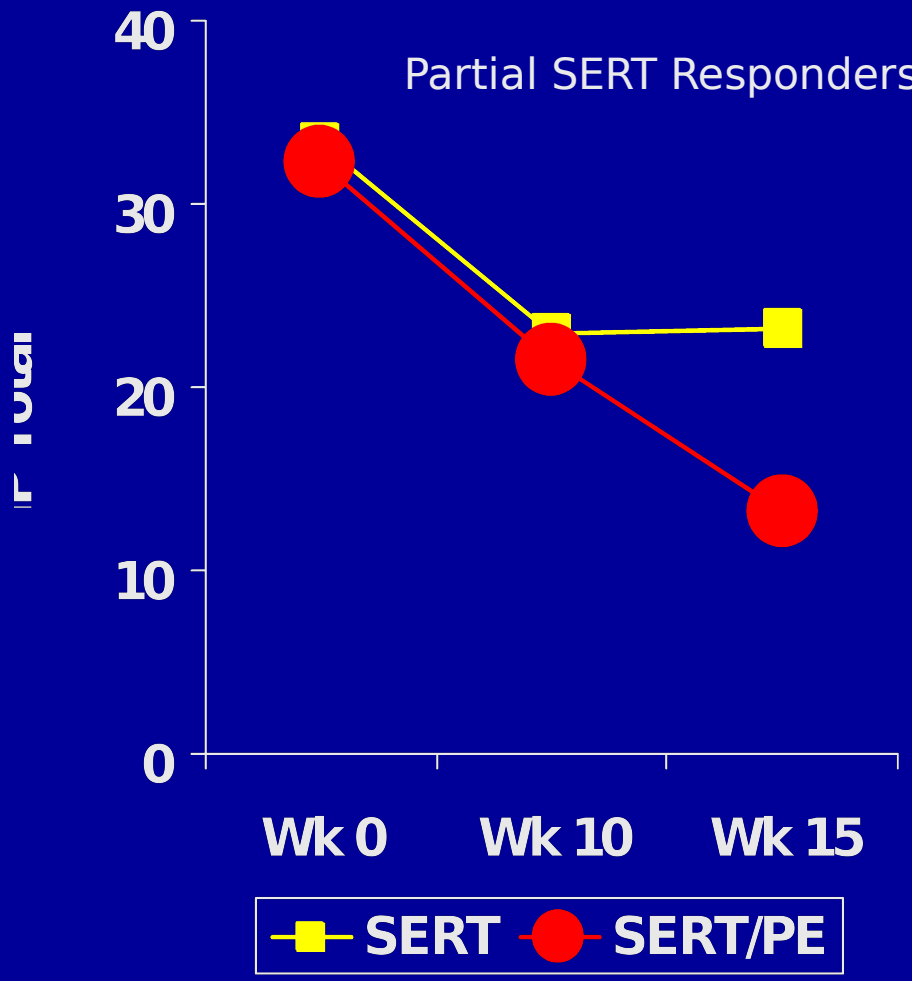


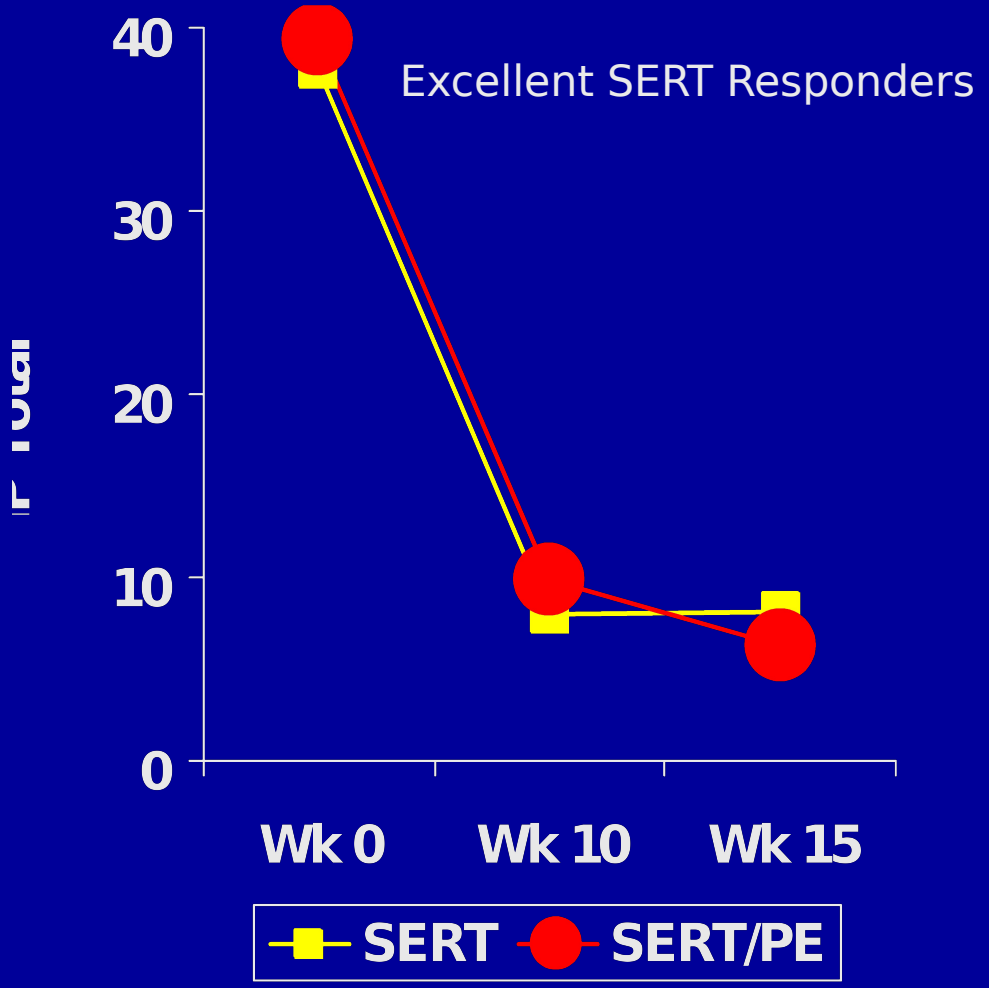

Medication trial from Tucker et al., 2001 Psychotherapy trial from Foa et al., 2005

# Study Design



# Augmentation with PE in Partial and Excellent SERT Responders




Rothbaum et al., 2006

# Exposure Therapy for PTSD in OEF/OIF Veterans

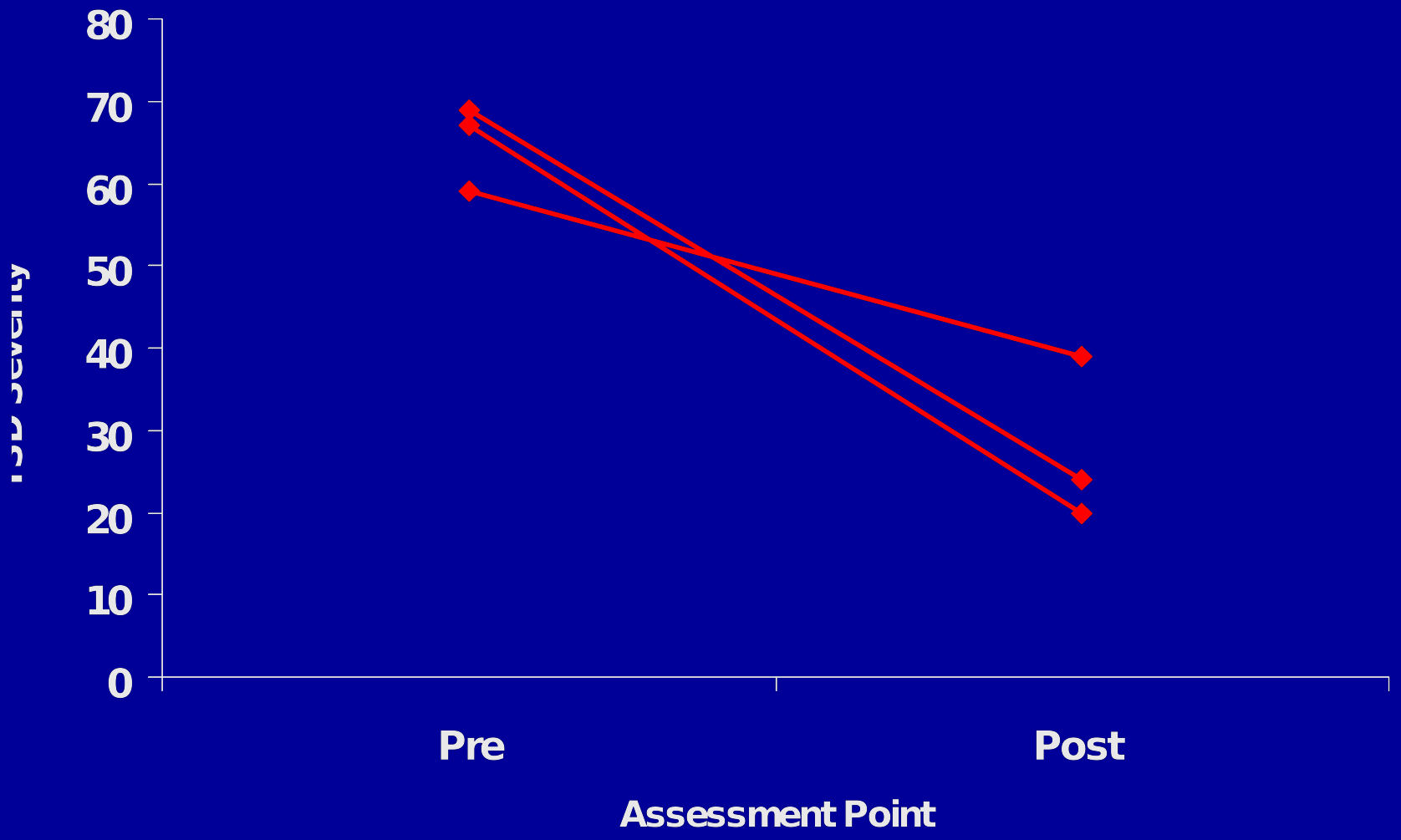
# Case Illustration

- Service member performing convoy protection duty in Iraq
- Lead vehicle hit with 500 pound VBED
- Service member performed Combat Life Saving and secured area
- Intake conducted 10 days after attack
- Initial PCL-M (PTSD Checklist-Military Version) = 67

# Case Illustration

- **PCL-M (PTSD Checklist-Military Version)**
  - **Session 1 = 67**
  - **Session 2 = 52**
  - **Session 3 = 40**
  - **Session 4 = 20**
  - **Patient was able to remain on duty**
  - **Patient able to complete deployment**

# PTSD Symptoms in Service Members Treated in Iraq




Cigrang et al., 2005

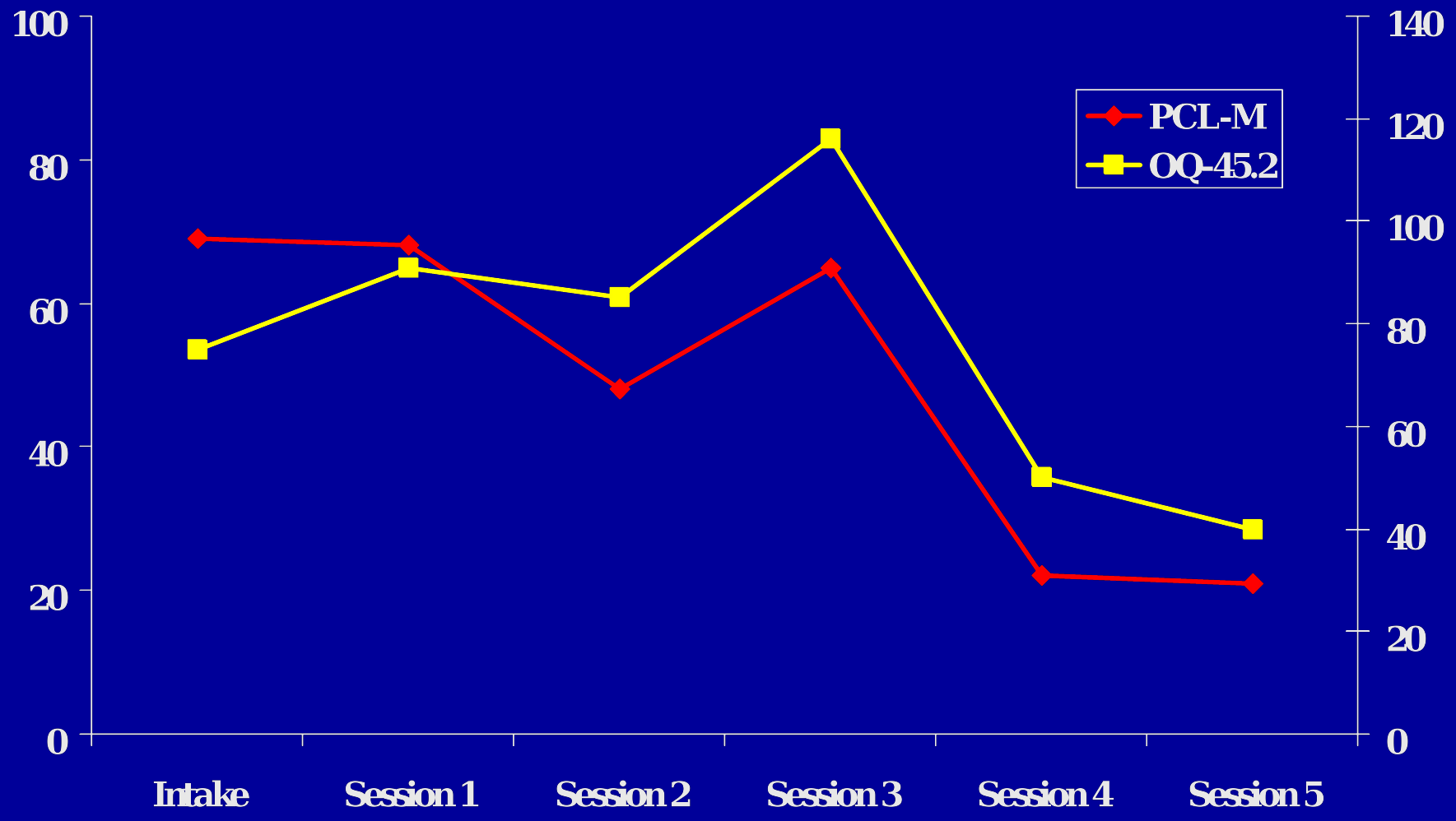
# Case example #1

- 43 y/o E-7
- Deployed to internment facility in Iraq
- Identified by PDHRA process
  - Difficulty remembering
  - Little interest of pleasure in doing things
  - Feeling down, depressed, or hopeless
  - Endorsed NONE of the PTSD sxs
  - Referred by PCM due to “minor concern” for sxs of depression

# Case example

- Initial intake
  - Exposed to multiple traumatic events
  - Scored 68 on the PCL-M
  - Scored a 37 on the PSSI
  - Met full criteria for PTSD
- Index trauma: seeing an Iraqi child burn victim

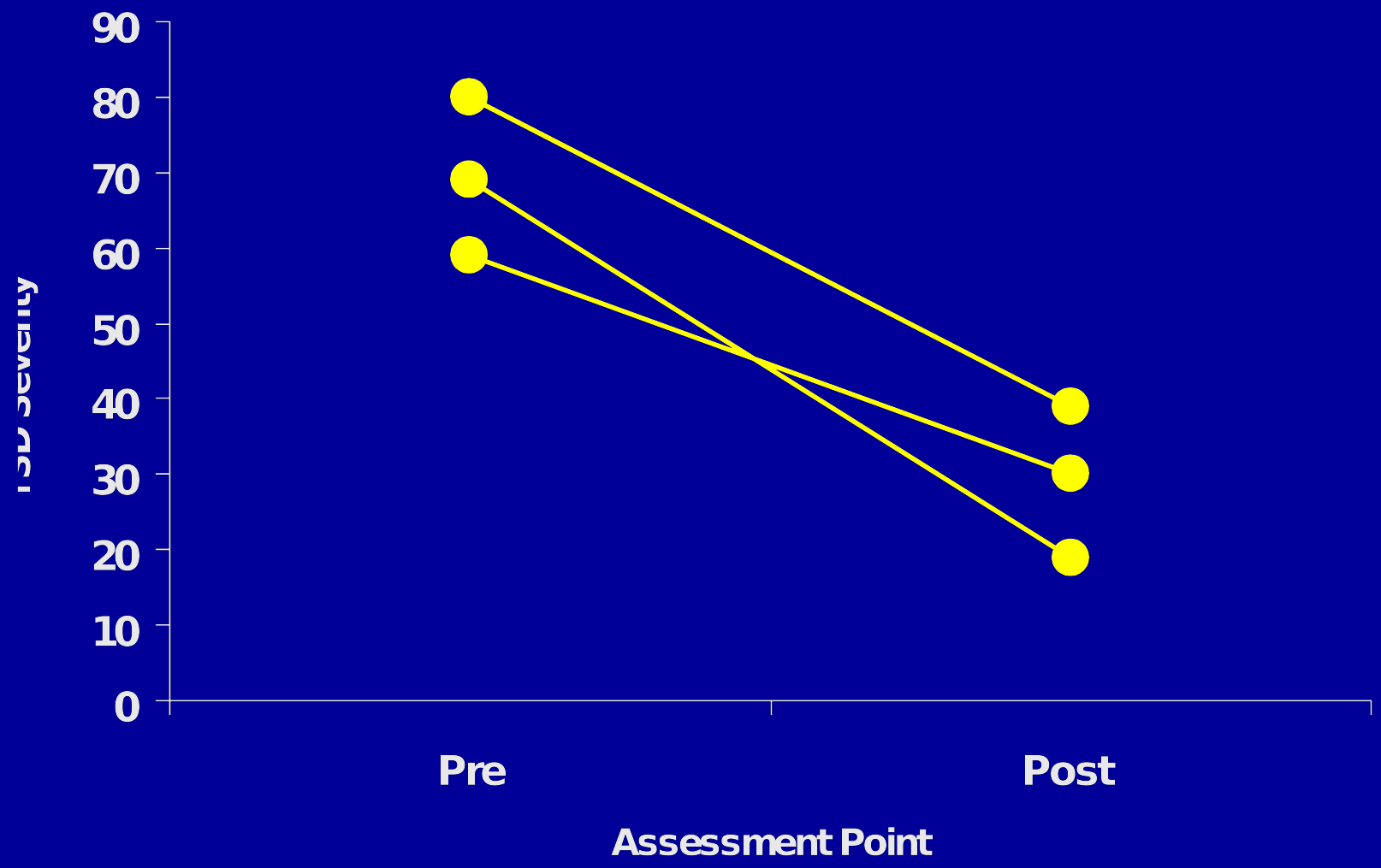
# Case example #1



# Case example #1

- Pt reports significant improvement in mood and functioning
- Reduction of PTSD and symptoms of depression
- Pt reports increased activity level
- Pt desires to deploy again

# PTSD Symptoms in OEF/OIF Service Members Treated CONUS



# PTSD Symptoms in OEF/OIF Service Members Treated with PE In Europe

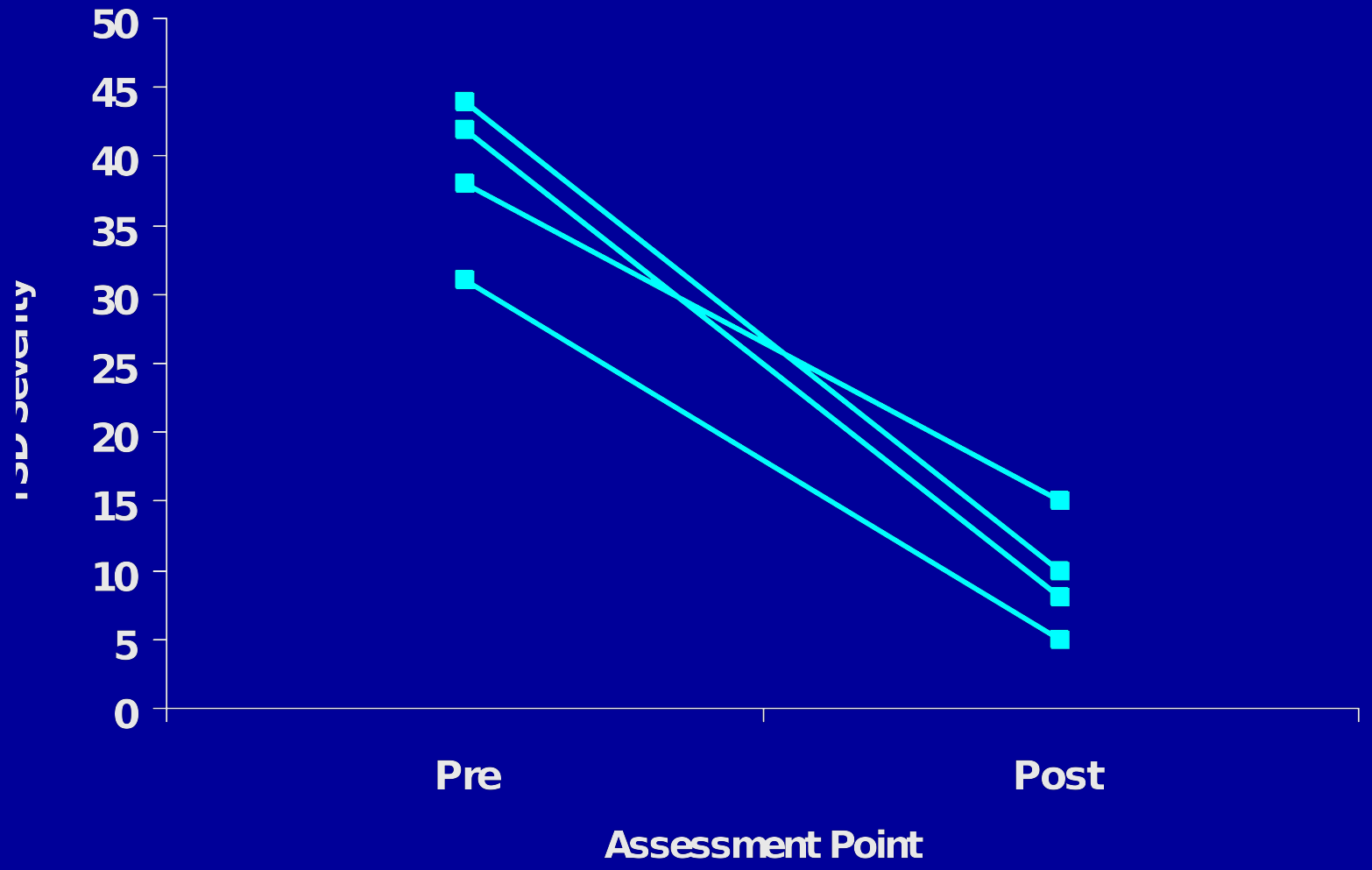
11 cases initiated treatment

5 completed treatment successfully – no longer diagnosed with PTSD

2 still involved in treatment

1 left treatment after entering treatment for alcohol dependence
1 left treatment after hospitalization for reasons unrelated to treatment
1 left treatment for unknown reasons
1 left treatment due to PCS

# PTSD Symptoms in OEF/OIF Service Members Treated In Europe




Russell, 2006; Uses EMDR techniques

# Summary

## Exposure Therapy

- Appears effective in reducing symptoms of PTSD in OIF/OEF service members
  - 11 of 11 patients treated to completion showed substantially reduced symptoms
  - 10 of 11 lost PTSD diagnosis
- Can be modified for use in deployed settings
  - 3 of 3 cases treated while deployed returned to duty with their units

## Limitations

- Uncontrolled case descriptions
- Lack of long-term follow-up

# Summary: Why We Like Prolonged Exposure

Exposure Therapy :

- Is a safe and effective treatment for PTSD, anxiety, depression, anger and related problems
- Is effective in treating PTSD resulting from a variety of traumas (including prolonged trauma such as child abuse)
- Is effective at preventing PTSD when administered shortly after a trauma
- Is as effective or better than other types of treatment
- Combined with other therapies does not significantly improve outcome
- Augments gains made with medication
- Can be used in conjunction with treatments for substance abuse to treat comorbid clients
- Is relatively simple and easily taught

David S. Riggs, Ph.D.

driggs@USUHS.mil

deploymentpsych.org